

Appln. No. 10/063,840
Docket No. 121800/GEM-0007

REMARKS / ARGUMENTS

Status of Claims

Claims 1-27 are pending in the application and stand rejected. Applicant herein provides clarifying remarks to overcome the rejections, and has added Claims 28-30, leaving Claims 1-30 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §102(b) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Rejections Under 35 U.S.C. §102(b)

Claims 1-27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Heuscher et al. (U.S. Patent No. 6,154,516, hereinafter Heuscher).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the *** claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

The Examiner alleges that Heuscher anticipates all claimed features in Claims 1-27, and more specifically alleges that Heuscher discloses each and every element of independent Claims 1, 13, 23, 24 and 25 (as well as dependent Claims 7, 9-12, 18-22 and

Appl. No. 10/063,840
Docket No. 121800/GEM-0007

27) by referencing Heuscher at Figures 1 and 2, and at Column 2 lines 13-24, Column 2 line 62 to Column 3 line 8, and Column 4 line 7 to Column 7 line 59. Paper 05012005, page 12.

In respectful disagreement with the Examiner, Applicant submits that Heuscher does not disclose *each and every element* of the claimed invention *arranged as claimed*.

In independent Claims 1 and 13, Applicant recites, inter alia, "...*communicating an exposure marker-in signal to said electrocardiogram device* such that said exposure marker-in signal is associated with the EKG waveform data...". (Emphasis added).

In independent Claims 23, 24 and 25, Applicant recites, inter alia, "...wherein the data synchronization scheme... *communicates an exposure marker-in signal to said electrocardiogram device* such that said exposure marker-in signal is associated with the EKG waveform data...". (Emphasis added).

At Paragraph [0025] and Figure 4, Applicant describes and illustrates *an exposure marker-in signal 228* as being *a CT event signal generated by CT imaging system 4* that is *communicated to EKG monitoring device 2* via EKG sync marker input 8 *so as to overlay EKG waveform data 200* and indicate the start of a CT scan.

Thus, Applicant is describing, illustrating and claiming *an exposure marker-in signal 228* that *signals a CT event*, is *generated by the CT imaging system*, and is *communicated to the EKG monitoring device*.

In respectful disagreement with the Examiner, Applicant finds Heuscher to be absent any disclosure of *an exposure marker-in signal being communicated to an electrocardiogram device such that the exposure marker-in signal is associated with the EKG waveform data*, as claimed.

As cited by the Examiner, Applicant finds Heuscher to disclose a cardiac gated spiral CT scanner 10 (Figure 1 and col. 4 lines 7-8), ECG data collected from the patient and used to correlate phases of the patient's heart with x-ray data collected via the spiral CT scanner 10 (col. 3 lines 3-5), a sampling processor 50 that tags sampled data views with the ECG data (col. 5 lines 58-60), and image reconstruction of planar slices that

Appln. No. 10/063,840
Docket No. 121800/GEM-0007

takes place in accordance with the ECG data to produce cardiac gated images 108 (col. 7 lines 33-35).

Here, Applicant finds Heuscher to disclose a cardiac CT system 10 that creates gated images 108 for subsequent rendering or diagnostics 110, 112, but finds Heuscher to be absent any disclosure of *an exposure marker-in signal being communicated to an electrocardiogram device such that the exposure marker-in signal is associated with the EKG waveform data*, as specifically claimed in the instant invention.

While Applicant agrees that Heuscher discloses cardiac gating, Applicant submits that such disclosure lacks the disclosure of each and every element of the claimed invention arranged as claimed. While cardiac gating may be directed to a triggering technique in which image acquisition is triggered by a start pulse derived from an EKG taken from the patient while imaging, the instant invention is directed to *an exposure marker-in signal derived from a CT imaging system and communicated to an EKG monitoring device* so as to overlay EKG waveform data and indicate the start of a CT scan on the EKG waveform data.

While the instant invention is directed to an exposure marker-in signal being *communicated to* an EKG monitoring device, Heuscher discloses cardiac gating that involves a trigger derived from the EKG. Not only does Heuscher lack the necessary disclosure of each and every element of the claimed invention arranged as claimed to support anticipation, but teaches an invention that involves communication *in the opposite direction* to that of the instant invention, thereby teaching away from the instant invention.

Absent disclosure in Heuscher of each and every element of the claimed invention arranged as claimed, Heuscher cannot be anticipatory.

Dependent claims inherit all of the limitations of the respective parent claim.

The Examiner makes a broad sweeping allegation that Heuscher anticipates all claimed features in claims 1-27, but does not state with specificity where each and every element of the claimed invention (particularly an exposure marker-in signal) arranged as

Appin. No. 10/063,840
Docket No. 121800/GEM-0007

claimed may be found in Heuscher. Accordingly, Applicant submits that the Examiner has not properly met the burden of a showing of anticipation.

In view of the foregoing remarks, Applicant submits that Heuscher does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

Regarding New Claims 28-30

Applicant has added new Claims 28 and 29, which depend from Claim 1 and include additional elements that more specifically describe the subject matter regarded as the invention. Support for the elements of Claims 28 and 29 may be found in the specification as originally filed. No new matter has been added.

In view of the previous discussion relating to Claim 1, Applicant submits that new Claims 28 and 29 are directed to allowable subject and respectfully requests entry and notice of allowance thereof.

Applicant has added new Claim 30, which depends from Claim 24 and includes additional elements that more specifically describe the subject matter regarded as the invention. Support for the elements of Claim 30 may be found in the specification as originally filed. No new matter has been added.

In view of the previous discussion relating to Claim 24, Applicant submits that new Claim 30 is directed to allowable subject and respectfully requests entry and notice of allowance thereof.

Appln. No. 10/063,840
Docket No. 121800/GEM-0007

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

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